

ABSTRACT

[Abstract]

[Problem]

To provide a current limiter circuit, a motor drive circuit or a semiconductor device, which can protect a power transistor of a driver IC by preventing the power transistor from being broken when there is a breaking in a path from an output terminal of the power transistor connected to an exciting coil of a motor to the other terminal of the exciting coil.

[Means for Resolution]

A power transistor protective circuit comprises a terminal open detection circuit, a breaking detection circuit and a drive stop circuit. When the power transistor is outputting a drive current, the terminal open detection circuit detects whether or not there is a breaking state in a path from an output terminal of the power transistor connected to an exciting coil of a motor to the other terminal of the exciting coil. Further, as the breaking detection, the terminal open detection circuit detects a non-open state and then an open state. Alternatively, the terminal open detection circuit detects an open state or a closed state in the path from the output terminal of the power transistor connected to the exciting coil of the motor to the other terminal of the exciting coil when the power transistor is outputting the drive current. As the breaking detection, the breaking state is detected when a plurality of open states are detected according to the open state or the closed state detected by the terminal open detection circuit.

[Selected Drawing] Fig. 1